

NAVSHIPREPFAC YOKOSUKA
LOCAL STANDARD ITEM

FY-01

ITEM NO: 099-05YO
DATE: 01 JUL 2000
CATEGORY: II

1. SCOPE:

1.1 Title: Temporary Accesses; provide

2. REFERENCES:

- a. NAVSHIPREPFAC Yokosuka Local Standard Items
- b. MIL-STD-1689, Fabrication, Welding, and Inspection of Ships Structure
- c. NAVSHIPREPFACINST 5100.8, Occupational Safety and Health (OSH) Program Manual
- d. S0600-AA-PRO-160/CH-16, Underwater Ship Husbandry Manual, Cofferdams

3. REQUIREMENTS:

3.1 In case that a design liaison memorandum (DLM) is not applied in the Work Item as a reference for the temporary accesses, submit one legible drawing or sketch of each proposed access cut and a list of each proposed bolted/riveted access removal to NAVSHIPREPFAC three working days prior to making cut or removing bolted/riveted access.

3.1.1 The drawing or sketch shall include, as a minimum, the following information:

3.1.1.1 A plan and elevation view specifying the location of the access by deck, frame, and distance from the center line or deck edge and showing location of adjacent penetrations, bulkheads, framing, welds, and riveted joints within 12 inches of the proposed cut.

3.1.1.2 Location and number of previous cuts visible in each plate and the cutback of existing welds as required by 3.2.8.1.

3.1.1.3 Temporary structural reinforcement required to prevent distortion of ship structure.

3.1.1.4 Thickness and type of material of plating and structural members to be cut.

3.1.1.5 A description of the temporary access closure or enclosure.

3.1.1.6 A copy of the weld procedure or approved weld procedure number with the proposed access sketch.

3.1.2 List of bolted/riveted access covers shall include location, designation, and classification as identified on ship's damage control charts.

3.2 Ensure that access cut boundaries:

3.2.1 Are located between ship framing, bulkheads, and other structural members and shall be at least three inches from these members and the toes of other weld butts.

3.2.1.1 Boundaries may extend across one or more frames as required for size of opening.

3.2.2 Are located at least six inches from a riveted joint except where riveted joints form a boundary of the cut.

3.2.2.1 Weld riveted plates using a single V-weld with glass cloth conforming to MIL-C-24576, Type One, Class One, to prevent fusion between backing member and plate.

3.2.2.2 Remove existing rivets within six inches of a cut and install new rivets in accordance with 2.b.

3.2.3 Are at least four inches in diameter for round patches.

3.2.3.1 Round patches two feet in diameter or less shall be dished 1/16-inch to 1/8-inch.

3.2.4 Are at least three inches minimum to six inches maximum width for oblong cuts with circular ends and have a radius of one-half the width.

3.2.5 Are sized so that the smallest dimension of a square or rectangular cut is 12 inches. For cuts less than 24 inches, minimum radius of each corner shall be three inches; for cuts 24 inches and greater, minimum radius of each corner shall be six inches. Exception to this corner radius criteria is where cut terminates at an existing weld.

3.2.6 Utilize existing butts or seams whenever practical.

3.2.7 Utilize the same boundaries as used for prior cuts unless the requirements of this Standard Item have been violated.

3.2.7.1 Notate violations on the drawing or sketch required by 3.1.

3.2.8 Intersect or cross existing butts at a 90-degree angle, plus or minus 15 degrees.

3.2.8.1 Intersecting welds shall be cut back a minimum of three inches beyond the toe to the weld of the access cut, except that the cutback shall not intersect or cross an existing weld, frame, or structural member, in which case, the cutback may be reduced to a minimum of two inches in length.

3.2.8.2 Cross welds shall not be cut back.

3.2.9 Are not made in the sheer, stringer, or bilge strakes, or in the flat keel unless approved by NAVSHIPREPFAC.

(V) "INSPECT LAY OUT"

3.3 Lay out access in accordance with the DLM, reviewed drawing or sketch.

3.4 Cut access in accordance with the DLM, reviewed drawing or sketch.

3.5 Remove bolted/riveted access.

3.5.1 Clean and preserve gasket faying surfaces.

3.5.2 Chase and tap exposed threaded areas.

3.6 Accomplish the requirements of Chapter 19 of 2.c for guarding of access openings.

3.6.1 Remove temporary guarding after installation of access plates. Chip and grind surfaces flush in way of removals.

3.7 Install a temporary coaming with a minimum height of four inches around access cuts through decks. Tack weld the coaming to the deck and seal the deck joint with caulking compound.

3.7.1 Remove the temporary coaming after installation of access plate. Chip and grind surfaces flush in way of removals.

3.8 Protect ship from weather and contamination.

3.8.1 Fabricate temporary closures, using fire retardant material, prior to removing plates or cutting access openings.

3.8.1.1 Closures shall be constructed to protect the access from inclement weather and entry of contaminants.

3.8.1.2 Horizontal deck closures shall support a minimum of 150 pounds per square foot.

3.8.1.3 Closures shall be fitted with fasteners which permit rapid installation and removal.

3.8.2 Install closures whenever access is not in use.

3.9 Maintain watertight integrity of waterborne ship.

3.9.1 Fabricate and install watertight enclosures in accordance with 2.d prior to removing plates or cutting access openings that do not provide a minimum of four feet of freeboard.

3.9.1.1 Maintain watertight integrity to a level four feet above the maximum anticipated draft.

3.10 Maintain watertight integrity of ship in drydock.

3.10.1 Provide temporary access closure plates and fasteners prior to removing plates or cutting access openings below four feet of waterborne freeboard.

3.10.1.1 Closure plates shall be available on short notice for emergency sealing of the temporary access openings.

3.10.2 Seal access openings with closure plates when conditions warrant.

3.10.3 Secure openings at the end of each shift not immediately followed by another shift engaged in drydock work.

3.11 Remove the temporary closures when no longer required.

3.12 Install the access plate in accordance with the reviewed drawing or sketch.

3.12.1 Accomplish the requirements of 099-12YO of 2.a for installation and inspection of the access plate.

3.12.1.1 Accomplish nondestructive testing with acceptance criteria for: new welds, existing welds extending six inches beyond cutbacks, 24 inches of riveted joints within 12 inches of new welds, and repaired riveted joints including 12 inches either sides of the repairs. Acceptance criteria for the welds adjacent to the cutbacks shall be limited to an absence of crack indications. Nondestructive test requirements for closure shall include closure plates and small access plates.

3.12.2 Install the bolted/riveted access.

3.12.2.1 Use new gasket material conforming to MIL-R-900 and fastener material conforming to MIL-S-1222, Grade 304.

3.12.2.2 Install new rivets for riveted access plates in accordance with 2.b.

(V) "CHALK TEST"

3.13 Accomplish a chalk test on structural closure in way of temporary access. Chalk imprint shall be centered with 100-percent contact.

(V)(G) or (I)(G) "HOSE TEST" (See 4.1 for criteria)

3.14 Accomplish the requirements of 099-25YO of 2.a for the water hose or local air hose test of each watertight/airtight closure. Allowable leakage: None.

4. NOTES:

4.1 The paragraph referencing this note is considered an (I)(G) if the inspection/test is for work that requires record retention by the fabrication document (e.g., MIL-STD-1689). If the test is for work that does not require record retention, then the paragraph shall be considered a (V)(G).

4.2 The diver services to install/remove cofferdams will be specified in the invoking Work Item.